

**Amendments to the Claims:**

The Claim Listing below will replace all prior versions of the claims in the application:

**Claim Listing:**

1. (New) A copper composition, substantially free of other metals, characterized by one or more spots of magnetic attraction to a neodymium iron boron magnet on the surface of the composition at room temperature.
2. (New) The copper composition of Claim 1 wherein the spots of magnetism are observed in a sinusoidal pattern.
3. (New) The copper composition according to Claim 1 wherein the magnetic attraction decreases over time.
4. (New) The copper composition of Claim 1 wherein the spots of magnetic attraction are present on the radial surface of the composition.
5. (New) The copper composition of Claim 4 wherein the axial surface of the composition is substantially free of spots of magnetic attraction.
6. (New) A copper composition, substantially free of other metals, characterized by point attraction to iron filings at room temperature.
7. (New) The copper composition of Claim 6 wherein the point attraction is measured at or near 77 K.
8. (New) A copper composition characterized by an MFM of Figure 1B.
9. (New) A copper composition characterized by an axially to radially anisotropic scan by an MFM.

10. (New) A copper composition manufactured by exposing a starting composition to an iterative cyclic process in the presence of a carbon source wherein the starting composition does not attract a magnet, the copper composition attract a magnet and there is substantially no difference in Gauss readings between the starting composition and the copper composition.
11. (New) A copper composition characterized by a magnetic region exhibiting magnetic attraction to a neodymium iron boron magnet and/or iron filings and wherein said composition exhibits a Gauss reading of essentially zero.
12. (New) A copper composition characterized by a magnetic region exhibiting magnetic attraction independent of pole and wherein said region attracts a ferromagnetic material.
13. (New) A copper composition characterized by a magnetic region exhibiting magnetic attraction independent of pole and wherein said region exhibits a Gauss reading of essentially zero.
14. (New) A composition characterized by an X-ray fluorescence analysis report wherein the report recites the presence of an element in the periodic table wherein said composition has not been in contact with said element.
15. (New) The composition of Claim 14 comprising an element selected from the group consisting of alkali metals.
16. (New) The composition of Claim 14 comprising an element selected from the group consisting of alkaline earth metals.

17. (New) The composition of Claim 14 comprising an element selected from the group consisting of Group 3 elements.
18. (New) A composition of Claim 14 comprising an element selected from the group consisting of Group 4 elements.
19. (New) The composition of Claim 14 comprising an element selected from the group consisting of Group 5 elements.
20. (New) The composition of Claim 14 comprising an element selected from the group consisting of Group 6 elements.
21. (New) The composition of Claim 14 comprising an element selected from the group consisting of Group 7 elements.
22. (New) The composition of Claim 14 comprising an element selected from the group consisting of Group 8 elements.
23. (New) The composition of Claim 14 comprising an element selected from the group consisting of Group 9 elements.
24. (New) The composition of Claim 14 comprising an element selected from the group consisting of Group 10 elements.
25. (New) The composition of Claim 14 comprising an element selected from the group consisting of Group 11 elements.
26. (New) The composition of Claim 14 comprising an element selected from the group consisting of Group 12 elements.

27. (New) A composition characterized by an X-ray fluorescence analysis report wherein the report recites an emission detected at room temperature the presence of an element in the periodic table wherein said composition has not been in contact with said element.
28. (New) A composition characterized by an X-ray fluorescence goniometer scan wherein the scan pattern differs in peak shape or centroid position from a calibrated standard for at least one element.
29. (New) A composition characterized by an X-ray fluorescence analysis report wherein the sum before normalization is less than 90%.
30. (New) The composition of Claim 27 comprising copper, nickel, cobalt, silicon or iron and alloys thereof.
31. (New) The composition of Claim 27 wherein said element is selected from Al, Si, S, Cl, Sc, Ga, Rh, La, Er, Re, or Ir.
32. (New) A composition manufactured by a process consisting of exposing a starting composition to an iterative cyclic process in the presence of a carbon source, wherein said composition is characterized by an anisotropic XRF pattern.
33. (New) The composition of Claim 31 comprising copper, nickel, cobalt, silicon or iron and alloys thereof.
34. (New) A copper-containing composition, free of an element, characterized by an XRF analysis that detects said element.

35. (New) The copper-containing composition of Claim 33 wherein said element is sulfur.
36. (New) The copper-containing composition of Claim 33 wherein said composition contains about 99.98% by weight copper.
37. (New) The copper containing composition of Claim 33 wherein the composition is an alloy.
38. (New) A copper composition characterized by an anisotropic x ray emission spectrometry (XES) image.
39. (New) A copper composition wherein the radial XES image detects elements not detected in the axial XES image.
40. (New) The copper composition of Claim 38 wherein the radial XES image detects an element selected from the group consisting of sulfur, chlorine, potassium, aluminum, silicon and oxygen.
41. (New) A copper composition manufactured by a process consisting of exposing a starting composition to an iterative cyclic process in the presence of a carbon source, said composition is characterized by an anisotropic XES image.
42. (New) A copper composition, free of an element, characterized by an XES image that detects said element.